496 on the main lines. On side-lines the speed was about half as much. The distance between stations in Dnipro-Ukraine are far too great (10.8 km); in Carpatho-Ukraine and Galicia they are 4.2 and 3.7 respectively.

497 Travel is constantly increasing in Ukraine. In Dnipro-Ukraine the number of passengers rose from 49 millions in 1913 (5.3 mrd. passenger/km) to 60 millions in 1927/28 and to 200 millions in 1935 (11.6 mrd. passenger/km). Goods traffic increased from 95 million t (19.6 mrd. t/km) to 204 million t (51.4 mrd. t/km) in 1935. This increase of 300 % and 115 % respectively corresponded neither to the extension of the railroad net (23 %) nor to the increase in the means of transportation (engines 25 %, trucks 50 %) even if the traction power of the individual engine had greatly increased. (from 143 000 t in 1914 to 221 000 t in 1933).

3. Country Roads

● 491 In Dnipro-Ukraine there are mostly country-roads without side-ditches. They are not artificially built, and are often impassable in spring and autumn, and too dusty in summer so that they can only be used in winter. As they also form the approach to railway stations, they are responsible for gluts or shortages of railroad trucks: sugar factories, in particular, suffer from these circumstances during the beet harvest. Before the first World War there were only 2 770 km of paved highways (and 3 500 km of others). In Volynia and Podolia there were 13 or 15 meters respectively per sq. kilometer, in the districts round Kyiv and Chernyhiv, 5.6 meters each, while in France there were 1125 meters and in Germany 560 meters. Under the first Five-Year Plan serious attempts at improvements were made; the proportion of paved highways in the entire network of roads was to be raised from 2.3 % to 4.5 %. In reality the entire length of paved highways in 1935 amounted to 8 500 km. Northern Caucasia had 600 km of paved highways at this time. Things were much better in Galicia, which had 10 100 km of paved highways. After the First World War, however, Poland neglected road construction. In Carpatho-Ukraine, on the other hand, where there were 2 400 km of paved highways, the

491 roads were superior in quality to those in Galicia and the network was denser. The total length of highways in Ukraine was approximately 24 000 km. There was little motor traffic: there was more in Carpatho-Ukraine but in 1937 there were in Ukraine only 13 cars per 10 000 inhabitants (in France 492, England 431, Germany 183).

4. Inland Waterways

133 As regards length and the area of their basins, the rivers of
487 Ukraine are among the largest in Europe, but their navigability suffers from frequent windings, shallows and rapids. In summer variations in the water level are a great disadvantage, while in winter the rivers are frozen for 3—4 months. As the rivers melt from the mouth, there is no danger from ice-floes. 90 % of the rivers flow into the Black Sea, some into the Vistula and two insignificant streams into the Caspian Sea. The Dnipro and some of its tributaries are navigable as are also 4 other rivers:

The Dnipro is 2 248 km long and drains an area of 518 500 square kilometers, so that it is the third biggest river in Europe. By the dam it has been made navigable for 1 250 kilometers. Its tributaries, the Pripyat, the Desna and the Seym are also navigable. The total length of the Dnipro navigable network is 3250 kilometers, while 4 300 km of waterways can be used for shipping and floating rafts, i. e. more than $^2/_3$ of the total waterways in Ukraine (6 200 km).

305 Freight traffic on the Dnipro did not reach the pre-war level of 2.7 million t till 1932 and had increased by 1935 to 3.9 million t. Passenger traffic doubled in those years and amounted to 4.8 millions. $^1/_3$ of the goods transported was wood, and $^1/_4$ mineral building materials, more than $^1/_8$ grain, while coal, ore and metal were poorly represented. The important harbor towns on the Dnipro are Kyiv, Dnipropetrivske, Nishnodniprovske and Kherson.

The Dnister (1 372 km long, draining an area of 77 000 sq. km) has been prevented by geological and political conditions from developing any great shipping. Upper reaches and lower belong to two absolutely different political systems. Before the

496 4. *Local railway lines*, of which the most important are those which link the large towns and join them to the agricultural regions.

Although certain strategic lines now function as lines of local importance, owing to the change of the frontier, this fact has not remedied the insufficiency of such railways.

The reinforcement of industrial lines, the entire rebuilding of the stations on the strategic lines in the sense of increasing the number of storage lines, as well as the construction of new local lines, must be considered a task of immediate importance so as to avoid the slowing down of the economic development of the country. Actually if the economic potential of the Ukraine is greater or at least equal to that of France on roughly the same extent of territory, the Ukraine only possesses one-third of the rail network of France (14,500 kilometres as compared with 44,000 kilometres). If one adds the almost complete absence of roads to this, especially on the left bank of the Dnieper and in the south of the Ukraine, the inactivity and unproductiveness of the Soviet regime in the sphere of the construction of new lines seems difficult to explain.

491 In reality the Ukrainian network of roads before the Great War was in practice limited to a single road which was maintained in a satisfactory condition and which linked Kiev with the Austrian frontier via Jitomir. As far as we know that was the only motor-car road before the last war in the whole of Europe. This main road had several important local branches leading towards the south and ending at Kamenetz-Podolsk, and leading towards the north in the direction of Korosten and Kowel. Several very narrow carriage roads, whose foundations and surface were very poor, were to be found in the region of Kiev and in Podolia and they were being

maintained by the Zemstvos (local organizations somewhat similar to County Councils, elected by citizens with a certain property census).

Quite recently the planning of the organization of the road system of the Soviet Union was put in the hands of the planning commission. It seems that important sums are to be spent on this project. It is almost unnecessary to mention that great economic transformations could be brought about by the construction even of a few thousand kilometres of roads, especially in New Russia where the composition of the soil makes the present tracks absolutely impassable after the slightest rain. Many villages still remain almost isolated from the rest of the world during periods of bad weather and are only connected with their respective centres by telegraph and, in case of their defect, by postmen on horseback.

The question of roads which we have approached allows us a small diversion. We can say a few words about the Zemstvos. This organization was distinguished after the abolition of serfdom as a factor of the first order in the development of the economic organism of the country, of the raising of the well-being of the population, of public hygiene, and of instruction. Having resources resulting from taxes on the land, the Zemstvos were able to cover Ukrainian territory, as also that of the whole of Russia, with a dense network of hospitals, veterinary centres, agricultural advisory bureaux, of experimental fields, of credit and trade co-operatives, and insurance offices, and finally of primary and even technical schools. The personnel of the Zemstvos, recruited among the intelligentsia often belonging to the popular classes, was always conspicuous by its devotion to the cause and did not lack in highly qualified specialists who did not hesitate to sacrifice

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

000 IN general the internal means of communication in the Ukraine are in a defective and backward state. They all require heavy expenditure and extensive works to bring them up to a standard approaching that of Western Europe.

(*a*) *Roads*

491 The Ministry of the Interior groups the roads under three heads: (1) metalled roads, (2) roads paved throughout their length, and (3) non-paved or soil [653] roads. The metalled roads are constructed and kept up by the State. There are 2,254 miles of first-class road in the Ukraine, of which 923 miles are in the Government of Yekaterinoslav.

The principal lines of first-class roads are as follows:

From Kiev *via* Jitomir, Rovno, and Lutsk to Kovel, 260 miles. This road continues to Brest-Litovsk. There are branch roads from Rovno and Lutsk to Dubno, each about 30 miles in length, and from Dubno a road leads to Krzemenietz, some 20 miles distant.

From Kamenets Podolsk in a northerly direction to Proskurov and Staro-Konstantinov.

From Kiev in a northerly direction to Chernigov, thence to Mohilev and Vitebsk. The length from Kiev to the boundary of the Government of Chernigov is 150 miles.

From Kharkov northwards towards Kursk and Moscow. Thirty miles of this road are in the Government of Kharkov.

The remaining lengths of metalled road are mostly

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

in the Government of Yekaterinoslav in the Donets coal and iron region.

The second-class roads, described as 'paved throughout', have a mileage of 953. They are under the care of the *zemstvos*, but the expenditure bestowed upon them is small.

The third class of roads, described as 'soil' roads, has by far the greatest mileage, their length being 54,148 miles. In no country of western Europe would they be classed as roads, being merely tracks from point to point, worn by the traffic of the district. They are under the care of the *mirs*, or communes, whose budgets admit of the expenditure of very small sums on their upkeep.

As other means of communication are also few and unsatisfactory, the lack of good roads would be a fatal drawback to any development of the country, were it not for the fact that during three or four months of the year traffic by sledge is almost everywhere possible without special regard to the existence of a road or even a track. As during this period agricultural operations are suspended, an opportunity is afforded of transporting a vast quantity of goods.

(*b*) *Rivers and Canals*

The rivers of the Ukraine include the middle and lower courses of two large rivers, the Dnieper and the Dniester. Both are navigable for long distances, and should be of great importance as means of communication. Each, however, suffers from a serious natural defect which much curtails its usefulness, and to remedy which no adequate measures have been taken.

For purposes of navigation the river *Dnieper* falls into two sections known as 'above the rapids' and 'below the rapids'. Between Yekaterinoslav and Alexandrovsk are ten rapids, which are very dangerous and completely prevent navigation. Timber rafts are floated down, but the occupation of steering them is considered most hazardous and is entrusted to local pilots specially trained. Some attempt at improving

[Podolia] [Volhynia]

everyone else from among our ranks. 000

Before the First World War it was said of 101
Podolia, which you will reach if you wander farther 181
north and which lies like a plateau over the Dniestr 311
Valley, that bread grows on fence posts there, /Facing page 16: Kiev, the capital of Ukraine. [000]
View of the lower part of the city/; /Facing page 17: The old fortress of Feodosiya on the Crimea/ 3 2
/17/ and that the fences are woven out of sausages. For the first time there lies before you an immeasurable sea of surging grain. Not a house far and wide, rarely a small wood. A groundless, dusty field road, surprisingly seems to lead into empty space, but where you think it ends, it leads you straight as a die, by means of steep turns into one of those deep valleys which the rivers in the course of thousands of years have carved into the plateaus. Down there the Podolians build their loam huts, the whitewashed walls of which have already greeted you from a distance through the green of the plum and cherry trees. If you follow the river upstream, it will more and more often lead you around ponds, marshes and swamps the nearer you come to its sources. You will see more storks than you have ever seen before in your life.

Almost imperceptibly you will reach Volhynia, 101
the western part of which belonged to Poland up to 491
1939, but was subject to the czar before that. You 361
will notice this immediately by the lack of good roads. For, as everywhere in former Czarist Russia, there are only a few paved roads, but all the more are there roads on which in dry weather you sink into the dust and in wet weather into mud. You will 361
notice it also by the cities and towns which are even dirtier and more neglected than those of Galicia. You are in the midst of the ghettos of the world. These cities are a jumble of houses, "with an ugly traffic artery in the middle". They are spread out with a total absence of form, as though they had been

3 2 [For plates, cf. pp. 215-216, category 116 - Analyst]

433 sariats of the Soviet Union decided that very shortly a reform in the methods of supplying food and articles of everyday use to miners of the Donets Basin is to take place. Since the time this decree was issued more than two months have elapsed, but nothing has changed. - We have visited the pits of all the different districts of the Donets Basin and have spoken to the men and women workers. We were obliged to conclude that in none of the districts has there been any improvement worth speaking of in the matter of food supply, that, on the contrary, conditions have grown worse to a large extent. We mention as an example the coal mines in the district of Rovenechky. Here there is a working population of 30,000 people; and every day one can see how /172/ long lines form outside the food stores already early in the morning. After these people have patiently waited, usually for several hours, they are told that no food supply whatsoever has arrived, so that they return home without having received anything. We asked a number of leading union officials how the food supply trade is organized. Trade union official Kondratov gave us the following explanation: In our store there is neither sugar nor salt nor groats. Meat is very seldom sold, and is usually of poor quality. Since February of this year we have had salt herring only one single time, other fish we have not even seen." (119)

119. Keyserlingk: The Russian Worker Lives in This Way, page 44ff.

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491 Like trade, the system of communication is poor in the Ukraine. In 1880, there were in the Northern Ukraine, 210,000 chumak, that is carters and dealers who took care of long-distance trans-

491 portation by land with ox teams. In the three South Ukrainian governments in 1897, 100,000 such ox carts lumbered along on the ancient, worn-out chumak roads which were many hundreds of meters wide. Neither the Polish nor the Russian administration bothered about road building. Even today there are large cities in the Ukraine which are connected with one another only by means of enormously wide country roads. While Galicia during Austrian rule had about 10,000 kilometers of paved roads, and the Czechs built 2400 kilometers of roads in the Carpatho-Ukraine, the Soviet Ukraine succeeded in raising the figure to a full 8900 kilometers of highway in 1935, and the Kuban region to 600 kilometers. In 1935, there were 25,200 kilometers of improved natural roads which approximately correspond to our field roads, and 168,000 kilometers of "natural earth roads" which are impossible during the rainy season and in thaws. (120)

120. Kubiyovich: Geography, page 479 ff.

496/173/ There are only 24,400 kilometers of railways running through the entire Ukrainian area from the Carpatho-Ukraine to the Kuban, from the Black Sea up to the Pirpyat Swamps (in Germany there were 68,548 kilometers of railroads in 1935). The only actual railway junction in this large country is Lwów, from which nine lines emanate. Kiyev and all the other cities are merely intersections of two lines. In the twenty years of their rule the Bolsheviks have built only 1000 kilometers of railroads. (121) They, too, did not

121. Kubiyovich: Geography, page 484.

alleviate the main deficiency of the Ukrainian railway network the lines of which run north and south, toward Moscow and the Baltic: the important